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**1** [Proceedings of the 45th annual conference on Design automation](#)
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 June 2008 **DAC '08**: Proceedings of the 45th annual conference on Design Automation

**Publisher:** ACM

 Additional Information: [full citation](#), [abstract](#)
**Bibliometrics:** Downloads (6 Weeks): n/a, Downloads (12 Months): n/a, Citations: n/a

Welcome to the 45th Design Automation Conference and the City of Anaheim. This is the premier event for the electronic design community. It offers the industry's most prestigious technical conference in combination with the biggest exhibit hall.

**2** [Power minimization in IC design: principles and applications](#)
[Massoud Pedram](#)

 January 1996 **Transactions on Design Automation of Electronic Systems**

Volume 1 Issue 1

**Publisher:** ACM

 Full text available: [Pdf](#) (550.02 KB) Additional Information: [full citation](#), [abstract](#), [reference terms](#)
**Bibliometrics:** Downloads (6 Weeks): 53, Downloads (12 Months): 424, Citations: n/a

Low power has emerged as a principal theme in today's electronics industry. As low power has caused a major paradigm shift in which power dissipation is as important as performance and area. This article presents an in-depth survey of CMOS methodologies ...

**Keywords:** CMOS circuits, adiabatic circuits, computer-aided design of power dissipation, energy-delay product, gated clocks, layout, low power power synthesis, lower-power design, power analysis and estimation, power management, power minimization and management, probabilistic analysis, insulator technology, statistical sampling, switched capacitance, switching symbolic simulation, synthesis, system design

**3** [Fast false path identification based on functional unsensitizability using information](#)

Yuki Yoshikawa, Satoshi Ohtake, Tomoo Inoue, Hideo Fujiwara

 January 2009 **ASP-DAC '09**: Proceedings of the 2009 Conference on Asia and the Pacific Design Automation

**Publisher:** IEEE Press


 Full text available: [Pdf](#) (253.93 KB) Additional Information: [full citation](#), [abstract](#), [reference terms](#)
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In this paper, we propose a method for identifying false paths based on unsensitizability of path delay faults. By using RTL structural information gate level paths are bound into an RTL path and the bundle of them can

#### 4 [Towards automated ECOs in FPGAs](#)

 Andrew C. Ling, Stephen D. Brown, Jianwen Zhu, Sean Safarpour  
February 2009 **FPGA '09**: Proceeding of the ACM/SIGDA international symposium on programmable gate arrays

**Publisher:** ACM

Full text available:  Pdf (724.09 KB) Additional Information: [full citation](#), [abstract](#), [reference terms](#)

**Bibliometrics:** Downloads (6 Weeks): 37, Downloads (12 Months): 37, Citation

During the FPGA design flow, engineering change orders (ECOs) have been an essential methodology to apply late-stage specification changes and bug fixes. ECOs are beneficial since they are applied directly to a place-and-routed netlist without the need for a full re-synthesis.

**Keywords:** boolean satisfiability, fpga, optimization, pst, resynthesis

#### 5 [Gate-level test generation for sequential circuits](#)

 Kwang-Ting Cheng  
October 1996 **Transactions on Design Automation of Electronic Systems**  
Volume 1 Issue 4

**Publisher:** ACM


Full text available:  Pdf (448.19 KB) Additional Information: [full citation](#), [abstract](#), [reference terms](#)

**Bibliometrics:** Downloads (6 Weeks): 13, Downloads (12 Months): 109, Citation

This paper discusses the gate-level automatic test pattern generation (ATPG) and techniques for sequential circuits. The basic concepts, examples, advantages and limitations of representative methods are reviewed in detail. The relationship between ATPG and logic minimization is also discussed.

**Keywords:** IC testing, automatic test generation, sequential circuit test, testing

#### 6 [Hardware-accelerated path-delay fault grading of functional test programs on processor-based systems](#)

 Paolo Bernardi, Michelangelo Grosso, Matteo Sonza Reorda  
March 2007 **GLSVLSI '07**: Proceedings of the 17th ACM Great Lakes symposium on VLSI

**Publisher:** ACM


Full text available:  Pdf (369.21 KB) Additional Information: [full citation](#), [abstract](#), [reference terms](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 31, Citation

The path-delay fault simulation of functional tests on complex circuits on processor-based systems is a daunting task. The amount of computing resources and memory needed for verifying or grading functional test programs capable of employing ...

**Keywords:** FPGA, fault-emulation, path-delay, software-based testing

## 7 [Evolution of synthetic RTL benchmark circuits with predefined testab](#)

 Tomas Pecenka, Lukas Sekanina, Zdenek Kotasek

July 2008 **Transactions on Design Automation of Electronic Systems**

Volume 13 Issue 3

**Publisher:** ACM

Full text available:  [Pdf](#) (502.82 KB) Additional Information: [full citation](#), [abstract](#), [referer](#)

**Bibliometrics:** Downloads (6 Weeks): 10, Downloads (12 Months): 92, Citation

This article presents a new real-world application of evolutionary compu digital-circuits testing. A method is described which enables to evolve la benchmark circuits with a predefined structure and testability. Using ...

**Keywords:** Benchmark circuit, evolvable hardware, testability analysis

## 8 [Formal verification in hardware design: a survey](#)

 Christoph Kern, Mark R. Greenstreet

April 1999 **Transactions on Design Automation of Electronic Systems**

Volume 4 Issue 2

**Publisher:** ACM


Full text available:  [Pdf](#) (411.53 KB) Additional Information: [full citation](#), [abstract](#), [referer](#)  
[terms](#)

**Bibliometrics:** Downloads (6 Weeks): 41, Downloads (12 Months): 353, Citatio

In recent years, formal methods have emerged as an alternative approac the quality and correctness of hardware designs, overcoming some of th traditional validation techniques such as simulation and testing. There a

**Keywords:** case studies, formal methods, formal verification, hardware language containment, model checking, survey, theorem proving

## 9 [Large-scale circuit placement](#)

 Jason Cong, Joseph R. Shinnerl, Min Xie, Tim Kong, Xin Yuan

April 2005 **Transactions on Design Automation of Electronic Systems**

Volume 10 Issue 2

**Publisher:** ACM

Full text available:  [Pdf](#) (428.15 KB) Additional Information: [full citation](#), [abstract](#), [referer](#)  
[terms](#)

**Bibliometrics:** Downloads (6 Weeks): 12, Downloads (12 Months): 92, Citation

Placement is one of the most important steps in the RTL-to-GDSII synth directly defines the interconnects, which have become the bottleneck in system performance in deep submicron technologies. The placement pr

**Keywords:** Placement, large-scale optimization, optimality, scalability

## 10

[Congestion-Aware Logic Synthesis](#)

[D. Pandini, L. Pileggi, A. Strojwas](#)

March 2002 **DATE '02**: Proceedings of the conference on Design, automatic Europe

**Publisher:** IEEE Computer Society

Full text available:  [Pdf](#) (181.11 KB) Additional Information: [full citation](#), [abstract](#), [cited b](#)

**Bibliometrics:** Downloads (6 Weeks): 1, Downloads (12 Months): 14, Citation (

In this era of Deep Sub-Micron (DSM) technologies, the impact of interconnects is becoming increasingly important as it relates to integrated circuit (IC) full-chip performance. In the traditional top-down IC design flow, interconnect eff

## 11 [RTL Power Optimization with Gate-Level Accuracy](#)

[Qi Wang, Sumit Roy](#)

November 2003 **ICCAD '03**: Proceedings of the 2003 IEEE/ACM international conference on Computer-aided design


**Publisher:** IEEE Computer Society

Full text available:  [Pdf](#) (167.94 KB) Additional Information: [full citation](#), [abstract](#), [referer](#)

**Bibliometrics:** Downloads (6 Weeks): 1, Downloads (12 Months): 30, Citation (

Traditional RTL power optimization techniques commit transformations on the estimation of area, delay and power. However, because of inadequate delay information, the power optimization transformations applied at the

## 12 [A routing approach to reduce glitches in low power FPGAs](#)

 [Quang Dinh, Deming Chen, Martin D.F. Wong](#)

March 2009 **ISPD '09**: Proceedings of the 2009 international symposium on

**Publisher:** ACM


Full text available:  [Pdf](#) (591.14 KB) Additional Information: [full citation](#), [abstract](#), [referer](#)

**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 2, Citation C

Glitches (spurious transitions) are common in electronic circuits. In this paper, we propose a novel approach to reduce dynamic power in FPGAs by reducing glitch during the routing step. This approach involves finding alternative routes for early-


**Keywords:** fpgas, glitch reduction, low power, path balancing, routing

## 13 [Circuit-aware architectural simulation](#)

 [Seokwoo Lee, Shidhartha Das, Valeria Bertacco, Todd Austin, David Blaauw](#)

June 2004 **DAC '04**: Proceedings of the 41st annual conference on Design Automation

**Publisher:** ACM

Full text available:  [Pdf](#) (291.91 KB) Additional Information: [full citation](#), [abstract](#), [referer](#), [terms](#)

**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 20, Citation (

Architectural simulation has achieved a prominent role in the system design process by providing designers the ability to quickly examine a wide variety of design alternatives. However, the recent trend in system design toward architectures that require high-level ...

**Keywords:** architectural simulation, circuit simulation, computer system, high-performance simulation

**14** [Layout-driven RTL binding techniques for high-level synthesis using estimators](#)



Min Xu, Fadi J. Kurdahi

October 1997 **Transactions on Design Automation of Electronic Systems**

Volume 2 Issue 4

**Publisher:** ACM

Full text available: Pdf (1.20 MB)

Additional Information: [full citation](#), [abstract](#), [reference terms](#)

**Bibliometrics:** Downloads (6 Weeks): 6, Downloads (12 Months): 60, Citation (

The importance of effective and efficient accounting of layout effects is in High-Level Synthesis (HLS), since it allows more realistic exploration of and the generation of solutions with predictable metrics. This feature ...

**Keywords:** FPGAs, binding, floorplan, high-level synthesis

**15** [IP-block-based design environment for high-throughput VLSI dedicated processing systems](#)



Nacer-Eddine Zergainoh, Katalin Popovici, Ahmed Jerraya, Pascal Urard

January 2005 **ASP-DAC '05: Proceedings of the 2005 conference on Asia South design automation**

**Publisher:** ACM

Full text available: Pdf (553.38 KB)

Additional Information: [full citation](#), [abstract](#), [reference terms](#)

**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 26, Citation (

The Growing requirement on the correct design of a high performance IC in short time force us to use IP's in many design. In this paper, we propose a block based design environment for high throughput VLSI Systems. The environment generates ...

**16** [A high-level clustering algorithm targeting dual  \$V\_{dd}\$  FPGAs](#)



Rajarshi Mukherjee, Song Liu, Seda Ogrencu Memik, Somsubhra Mondal

September 2008 **Transactions on Design Automation of Electronic Systems (TODAES)**, Volume 13 Issue 4

**Publisher:** ACM

Full text available: Pdf (310.88 KB)

Additional Information: [full citation](#), [abstract](#), [reference terms](#)



**Bibliometrics:** Downloads (6 Weeks): 23, Downloads (12 Months): 110, Citation (

Recent advanced power optimizations deployed in commercial FPGAs, lead towards FPGA devices that can be integrated into ultra low power systems. In this paper, we present a high-level design tool to support the process of mapping a

**Keywords:** Dynamic power, clustering, field programmable gate arrays, placement, voltage scaling



**17** [Register-transfer level functional scan for hierarchical designs](#)

Ho Fai Ko, Qiang Xu, Nicola Nicolici

-  January 2005 **ASP-DAC '05**: Proceedings of the 2005 conference on Asia S  
design automation  
**Publisher:** ACM  
Full text available:  Pdf (410.04 KB) Additional Information: [full citation](#), [abstract](#), [referer](#)  
**Bibliometrics:** Downloads (6 Weeks): 0, Downloads (12 Months): 11, Citation (

This paper discusses the potential benefits of inserting scan chains (SCs) designs at the register-transfer level (RTL) of design abstraction. Using for functional scan chain design, it is shown how tight timing constraints


# 18 Power-aware clock tree planning

-  Monica Donno, Enrico Macii, Luca Mazzoni  
April 2004 **ISPD '04**: Proceedings of the 2004 international symposium on  
**Publisher:** ACM  
Full text available:  Pdf (299.89 KB) Additional Information: [full citation](#), [abstract](#), [referer](#)  
[terms](#)  
**Bibliometrics:** Downloads (6 Weeks): 6, Downloads (12 Months): 76, Citation (

Modern processors and SoCs require the adoption of power-oriented design the implications that power consumption may have on reliability, cost and manufacturability of integrated circuits featuring nanometric technologies power ...



**Keywords:** clock tree synthesis and routing, digital design, low-power design and optimization

# 19 Compatibility path based binding algorithm for interconnect reduction synthesis

- Taemin Kim, Xun Liu  
November 2007 **ICCAD '07**: Proceedings of the 2007 IEEE/ACM international Computer-aided design  
**Publisher:** IEEE Press  
Full text available:  Pdf (551.87 KB) Additional Information: [full citation](#), [abstract](#), [referer](#)  
**Bibliometrics:** Downloads (6 Weeks): 10, Downloads (12 Months): 85, Citation

This paper describes a register and functional unit (FU) binding algorithm synthesis. Our algorithm targets the reduction of multiplexer inputs. Since connect multiple inputs to FUs or registers, the multiplexer count is a ...

# 20 Scalable trajectory methods for on-demand analog macromodel extraction

-  Saurabh K. Tiwary, Rob A. Rutenbar  
June 2005 **DAC '05**: Proceedings of the 42nd annual conference on Design  
**Publisher:** ACM  
Full text available:  Pdf (1.10 MB) Additional Information: [full citation](#), [abstract](#), [referer](#)  
[terms](#)  
**Bibliometrics:** Downloads (6 Weeks): 5, Downloads (12 Months): 27, Citation (





Trajectory methods sample the state trajectory of a circuit as it simulates domain, and build macromodels by reducing and interpolating among ...

**Keywords:** SPICE, analog, circuit, macromodel, trajectory method

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